DISSERTATION TITLE:

ESTIMATION OF DIPEPTIDYL PEPTIDASE IV IN ORAL SQUAMOUS CELL CARCINOMA PATIENTS UNDERGOING RADIOTHERAPY

AIM:

The aim of this study is to determine the levels of Dipeptidyl peptidase IV (DPP IV) in blood of oral squamous cell carcinoma (OSCC) patients undergoing radiation therapy.

MATERIALS AND METHODS:

The sample for the present study comprised of 60 patients of both genders with an age distribution between 30 and 75 years. The study samples were divided into three groups which follows as; Group 1: patients who were histopathologically diagnosed with OSCC and undergoing radiation therapy alone (n = 20), Group 2: patients who were histopathologically diagnosed with OSCC and undergoing radiation therapy after surgery (n = 20) and Group3: normal healthy individuals with clinically normal oral mucosa (n = 20). Blood samples were collected twice from each patient in group 1 and 2, during 1^{st} day before radiation therapy (IA, IIA) and at the end of third week (21^{st} day) during radiation therapy (IB, IIB). In group 3 blood samples were collected in the 1^{st} day (IIIA) and 21^{st} day (IIIB). 2.5 ml of blood will be collected by venous puncture under aseptic precautions. Obtained samples were centrifuged & the levels of DPP IV were analysed by proper biochemical methods.

STATISTICAL ANALYSIS:

All the parameters were tabulated for statistical significance using Statistical Package for Social Science (SPSS) software. The difference in levels of DPP IV activity in blood of OSCC patients undergoing only radiation therapy, OSCC patients undergoing radiation therapy after surgery and control group were statistically analyzed using paired T test. Multiple groups were analyzed by one way ANOVA test and intergroup comparisons were made using Post-hoc test. P value of less than 0.05 was considered to be statistically significant.

RESULTS:

Statistical significance was observed in the levels of DPP IV activity in all the groups namely group IA, IB, IIA, IIB, IIIA and IIIB.

CONCLUSION:

In this study, DPP IV enzyme levels were found to be decreased in OSCC patients before radiation therapy and DPP IV enzyme levels were found to be increased during radiation therapy. Since DPP IV apoptotic enzymes are increased during treatment, it can be used as a valid, convenient and reliable diagnostic measuring biomarker. Hence it can be suggested that estimation of blood DPP IV using spectrophotometry method can be used as a biochemical marker in diagnosis as well as in prognosis of oral squamous cell carcinoma.

KEYWORDS: DPP IV, oral squamous cell carcinoma, radiation therapy.